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AUSTRALIA

BRIEFS

HEPATITIS VACCINE--Canberra.--Health care workers, mentally retarded people living in institutions and promiscuous male homosexuals are among the first groups of potential hepatitis victims for whom a new vaccine has been recommended. The National Health and Medical Research Council yesterday recommended the use of a new drug, known as the hepatitis B vaccine, for these and other groups identified as being at special risk. The decision to offer the vaccine to anyone in the community is one for State Governments to make, but the stature of the NHMRC is such that its guidelines are usually followed. At the same time the NHMRC has recommended against giving the vaccine to babies younger than six months until enough data are available to establish that it is safe and effective for them. The council said that the incidence of hepatitis B infection in Australia, as in other Western countries, was low but rising. A spokesman for the council said last night that the drug would not be claimable as a pharmaceutical benefit, so that patients who received it would have to pay in full. The chairman of the Federal Health Department, Mr Lawrie Willett, said that the drug, on which the Commonwealth Serum Laboratories had worked, had been proved safe and effective but was expensive and, at least initially, was likely to be scarce. [Text] [Melbourne THE AGE in English 21 Apr 83 p 17]

CSO: 5400/7579

WATER COMPANY URGED TO LOWER RATES TO PREVENT DISEASE

Yaounde CAMEROON TRIBUNE in English 11 May 83 p 7

[Article by Kenjo Jumbam: "SNEC (Cameroon National Water Company), Help Us Prevent Diarrhoea"]

[Excerpts] The diarrhoea epidemic in Douala is now under control, thanks to Government prompt action in tackling the problem with all the force at its command, thanks to the medical staff in Douala for their dedicated services, thanks to firms like Brasseries du Cameroun and Bourdin & Chaussée for supplying the public in some areas of Douala with fresh water from distant areas free of charge and thanks to the rains that have at last come.

In the heat of the epidemic the main concern was to diagnose the immediate causes and to treat to save lives. Now that the epidemic is somehow under control we can try to look at some of the remote causes which, though in the background, are in a way responsible for the diarrhoea and loss of life.

Reporting from Douala, Martin Che (Tribune: Wednesday, March, 1983) states that "diarrhoea deaths could have been carefully avoided had the advice of the Provincial service of Preventive Medicine been followed. This service had advised against the drinking of water from springs and streams without treating it." The Director of SNEC drew public attention to the fact that SNEC pipe-borne water was treated and therefore was good for drinking.

Two public figures also commented on the quality of water to drink. They are the

Ministers of Public Health and of Mines and Power. The Minister of Mines and Power, is reportedly told the people of Douala that "water supplied by SNEC is treated with all modern means, it is what you have to drink." And the Minister of Public Health commented that, "it was not those who drank water from taps (SNEC water) that were sick."

Conclusively, those affected by the diarrhoea were those who did not drink tap water or SNEC water. But who are those who did not drink SNEC water and why? The answer to this question is to be found in a letter to the Tribune of Wednesday, April 13, 1983, by Fombong Njogho Richard. Writing from Bafoussam Mr. Fombong Njogho said, "The Government representatives' call on the population to drink SNEC water is not a solution. Drinking SNEC water requires that the drinker be earning a reasonable income. With SNEC water fast becoming a luxury "commodity" the cost of installation itself discourages many to think of having water in their homes, worst of all the monthly water rates which are so high." Then he goes on to suggest that SNEC should lower its installation and monthly fees so that people could afford water in their homes.

So we come to know that it is the low income group that do not drink the SNEC pipe-borne water because the cost is too high for them. Consequently, it is this same

low income group that is a victim of the diarrhoea epidemic and of eventual death.

From Bamenda we hear the same loud cry against the high cost of SNEC water. The Mayor of Mankon, Mr. Pefok, known for his reserved nature and rare public pronouncements cried out against the high cost of SNEC water. He said SNEC water bill for Bamenda town had risen from one million francs per month in 1980 to three million francs per month in 1983, this notwithstanding a reduction of more than twenty percent (20 %) in the number of public taps within the same period. And he lamented that "SNEC was too powerful an organisation for his council to fight against," (Tribune: Wednesday, March 30, 1983).

Even those who can afford the high cost of SNEC water say they don't easily get it in their homes. You are told that the distribution pipe is too far from your house, that SNEC is short of water metres, that those wanting water should wait until the distribution pipes are laid within the authorised tapping distance before they can tap water or that you wait until SNEC has water metres before you can be connected. And so you wait for months and for years without water and if the diarrhoea epidemic comes and you are unlucky it takes you.

CSO: 5400/270

DOMESTIC PHARMACEUTICAL CONSUMPTION SUMMARIZED

Cairo AL-AHRAM in Arabic 19 Apr 83 p 9

[Article by Faruq 'Abd-al-Majid: "408 Million Pounds' Worth of Drug Consumption Last Year"]

[Text] Reports show that Egypt is one of the biggest drug consuming countries in the world. The volume of consumption in 1981 came to about 293.3 million pounds, in 1982 it came to 407.7 million pounds, as compared with 480 million in 1983, and it is expected that in 2000 it will come to 2 billion pounds. The constant increase in the consumption of medicines is thus obvious.

Dr Mustafa Ibrahim, the secretary general of the Pharmacists' Club, says that Egypt is one of the biggest drug-consuming countries in the world, because of the low price of the drugs, which are among the cheapest in the world. The rate of antibiotics consumption comes to 21.7 percent of total consumption, of narcotics to 0.07 percent, of pain-killers and medicines for the treatment of arthritis, 9.1 percent, of medicines to alleviate blood pressure, 0.4 percent, of medicines to treat parasites 1.04 percent, of anti-malaria drugs, 0.03 percent, of anti-diarrhea drugs 3.3 percent, of medicines for heart diseases, 5.4 percent, of anti-tuberculosis drugs, 0.4 percent, of treatment of diabetes and birth control, 7.3 percent, of gastrointestinal ailments, 4.3 percent, of treatment of liver ailments, 0.3 percent, of vitamins, 5.5 percent, of energizers and minerals, 4.3 percent, of proteins 0.01 percent, and of tranquillizers, 4.1 percent.

The volume of pharmaceuticals imported in 1981 came to about 53 million pounds, as compared with 78.9 million in 1983; public sector production in 1981 came to about 137.9 million pounds as compared with 180 million in 1983; private sector production in 1981 came to 52 million pounds while in 1982 it came to 74.4 million pounds; and the per capita share in the past 2 years rose from 927 piasters to 103 piasters [sic]. All these figures require that we take an objective stance to regulate pharmaceuticals consumption by means of rules on the disposition of pharmaceuticals, on the basis of local regulations derived from the statutes in the advanced countries, in a manner that is in keeping with the circumstances and powers of resistance of the Egyptian people.

Dr 'Ali Hijazi, the head of the Union of Pharmacists of Egypt, claims that it is necessary to expand production of pharmaceuticals in the factories, give

attention to the pharmacists' role in providing compounds, and revive the medical preparations put together in the pharmacies, because of their importance in guiding the use of pharmaceuticals.

Dr Sabri Zaki, the minister of health, says "We produce more than 80 percent of the drugs we use, and we hope that this ration will increase to 85 percent in the next few years. Seventy percent of what we produce is sold to the consumer at a loss; that is, the government subsidizes pharmaceuticals indirectly. Since medicines are price controlled and anyone can obtain them, we must review this type of production in order to get pharmaceutical subsidies to the people who are entitled to them. Guiding consumption is a necessary matter which is dictated to us by our economic circumstances. Therefore, we intend to issue legislation making it a crime to smuggle Egyptian pharmaceuticals out of the country and to issue further legislation to dispense some kinds of drugs by prescription. No one can imagine that antibiotic, anticoagulants and other sensitive drugs should be dispensed without prescription. Ordinary drugs such as aspirin and medicines for influenza and colds should continue to be sold without prescription. We are intending to produce new packages for health insurance drugs in order to limit the consumption of medicines in this sector."

11887

CSO: 5400/4609

BRIEFS

CHOLERA OUTBREAK--Ten persons from Essuom near Kade are reported to have died at the St Dominic Hospital at Akwatia following an outbreak of cholera in the town. More than 20 others are in critical condition at the hospital. A senior official of the hospital attributed the outbreak to the source of drinking water following several months of severe drought. He advised the people to boil their drinking water and appealed for the supply of drugs and drips to combat the disease. There are also reports of the epidemic in the Adeeso and Asuatwene areas in which five people have died. At Kpandu in the Volta region, 15 persons have died at the local Catholic hospital. And according to reports from Dzodze in the Ketu District, 13 people have died out of the epidemic. The Volta regional medical officer of health, Dr Sabah Singh said precautionary measures including health education, have already started in the affected areas. Pockets of the outbreak are reported in other parts of the country including Accra and Sekondi-Takoradi. [Text] [AB060840 Accra Domestic Service in English 0600 GMT 7 Jun 83]

CSO: 5400/278

RADAN MAS (CHIKUNGUNYA) DISEASE SPREADS IN W. KALIMANTAN

Jakarta TEMPO in Indonesian 30 Apr 83 p 31

[Article: "Let Me Introduce Myself: I am Raden Mas Chikungunya"]

[Excerpts] Since the middle of January, 1983, this disease has affected more than 50 percent of the residents of the city of Pontianak [West Kalimantan]. Last week Raden Mas disease began to spread throughout the coastal area of West Kalimantan. The number of persons suffering from the disease in the two inland areas is not yet known precisely, but an official of the local health service believes that the disease, which has affected the area for the first time, will spread quickly, as it did when it affected residents of Pontianak.

Because this is the first time the disease has been noted in the area, and it is still rare in Indonesia, there is no agreement among the doctors in West Kalimantan as to the name of the disease, and a number of names have been given to it. Soedjiman, the governor of West Kalimantan, calls it Raden Mas disease because people suffering from it become lazy and want to sleep all the time. Soedjiman joked: "That was how it was with the Raden Mas [Javanese nobility] in the old days."

At first a number of doctors in Pontianak thought it was hong Kong Flu. There were other doctors who called it dengue fever. However, people suffering from it generally complain of the same symptoms: a high fever, pain and stiffness in the joints of the hands and feet (like rheumatism), and a week after the onset of the disease red spots appear all over the body, including in the mouth. Raden Mas disease begins to fade away after 1 week to 10 days, but there are many people who come down with it a second time. The disease disappears without taking any medicine.

However, after recovering from the disease the former sufferer is listless, sluggish, and continues to want to go to sleep.

The disease has spread quickly. In the middle of January it began affecting residents of East Pontianak District, which is a relatively poor area. Then it spread to North Pontianak and subsequently to West Pontianak. By the end of March the whole city of Pontianak was affected. Finally, more than 50

percent of the 300,000 people in the city had come down with the disease. By the middle of April, 30 percent of the people were still affected by it-- although by then it had begun to spread to areas in the interior, like Sanggau and Sintang. Not a single person has died from the disease.

Dr Gunawan Hadibrata, chief of the Project for Wiping Out Epidemic Diseases (P3M) in the West Kalimantan Provincial Office of the Ministry of Health, said: "From an epidemiological point of view, this is Chikungunya, although we are still waiting for virological and serological confirmation from Jakarta."

In some respects the disease resembles dengue haemorrhagic fever (DHF). Dr Gunawan added: in a conversation with TEMPO reporter, K. S. Djunaini, who had come down with the disease and had to rest for a few days: "The two diseases are both caused by a virus carried by the Aedes Egypti mosquito." The difference is that Chikungunya disease affects people of all ages, whereas DHF generally affects only children under 9 years of age. Dengue Fever can cause death, but Chikungunya is not a cause of death.

The results of laboratory tests in Jakarta confirmed the diagnosis of Dr Gunawan. Dr Thomas Suroso, the chief of the Sub Directorate of Virology of the Directorate General for P3M in the Ministry of Health, said: "The epidemic in West Kalimantan is undoubtedly Chikungunya." Indeed, according to Dr Thomas, the number of persons affected is the largest ever to come down with the disease in Indonesia. Other areas that have been affected by Chikungunya were Tanjungjabung, Jambi Province (July 1982); Gunung Sitoli, Nias Island [North Sumatra] March 1983); and Lampung Province, February 1983. Dr Thomas also thinks that, based on reports received at the Ministry of Health, last week 45 people living in the Sunter district of North Jakarta have also been affected by the disease. However, Dr Thomas added, "This has not yet been confirmed."

5170

CSO: 5400/8426

BRIEFS

EYE INFECTION IN JAKARTA--An epidemic of eye disease is presently spreading quickly to all areas of Jakarta. The eye disease epidemic spreads quickly when residents of one district are generally affected by the illness. A MERDEKA reporter today [28 April] visited several residential districts where the epidemic has affected many of the people, both children and adults. At first the people did not pay much attention to the disease. However, after nearly 1,000 people were affected by the disease, then they realized that the eye disease epidemic was spreading quickly. [Excerpts] [Jakarta MERDEKA in Indonesian 29 Apr 83 pp 1, 11] 5170

GASTROENTERITIS IN ACEH--A total of 174 persons have become ill with gastroenteritis, which is now affecting Aceh Province. Up to Wednesday [27 April] 18 persons had died from the disease. The dead were from West Aceh, North Aceh, and East Aceh Regencies. Dr Burhanuddin Yusef, chief of the Project for Wiping Out Epidemic Diseases (P3M) in Aceh, on Wednesday [27 April] confirmed that the epidemic of gastroenteritis is affecting Aceh Province. It is believed that this is a result of a prolonged drought. Meanwhile, hundreds of other people in Banda Aceh, Aceh Besar, Aceh Pidie, and Southeast Aceh Regency who have been affected by the disease have been treated by doctors nearby. It was stated that the area first affected by the epidemic of gastroenteritis in Aceh this year was West Aceh Regency. The disease was first noted at the beginning of February. Meanwhile, East Aceh and North Aceh were the next areas affected. The number of persons affected is increasing daily. [Excerpts] [Jakarta MERDEKA in Indonesian 29 Apr 83 p 9] 5170

GASTROENTERITIS IN WEST JAVA--An epidemic of gastroenteritis, which had affected several villages in Babelan District, Bekasi Regency, in West Java, has spread to Tambun and Taruma Jaya District. Up to Thursday [21 April] 142 people had been treated for the disease, six of whom died. Dr S Atep, the chief of the Bekasi Regency Health Service, admitted that this is the worst outbreak of gastroenteritis since 1975. The number of patients who die of the disease is a result of the fact that there is a delay in obtaining treatment for them at community health centers. The people still think that this disease is an ordinary stomach upset, and they treat it with ordinary medicines for stomach illnesses. [Excerpts] [Jakarta SINAR HARAPAN in Indonesian 22 Apr 83 p 2] 5170

KENYA

BRIEFS

CHOLERA OUTBREAK--A cholera outbreak is reported to have occurred in (Kobala) sublocation of East Karachuonyo location in south Nyanza district. According to the local councilor, (Edward Asuke), the disease has already claimed 3 victims in one village, while 16 others were admitted at Kendu Bay Health Center. Councilor (Asuke), who said six among those admitted had been discharged, appealed to the health teams working in the area to increase drug supplies and avail an ambulance [as heard]. [Text] [EA310119 Nairobi Domestic Service in English 1000 GMT 30 May 83 EA]

CSO: 5400/275

MALAYSIA

BRIEFS

CHOLERA-INFECTED DISTRICT--Krian District in Perak has been declared a cholera infected district. Three cases of the disease were confirmed in Kuala Kurau and Bagan Serai last week. A spokesman of the State Medical and Health Services Department said no cases have been reported in the state since Sunday 24 April, except for three cholera carriers. The number of carriers reported since last Thursday [21 April] is five. [Text] [Kuala Lumpur Domestic Service in English 1130 GMT 27 Apr 83 BK]

CSO: 5400/4426

MEXICO

BRIEFS

TYPHOID QUARANTINES TOWNS--Toluca, Mex., 6 May--Gustavo Baz Diaz Lombardo, chief of the Coordinated Services of the Public Health Department, reported that, after 9 years, two cases of typhoid fever have appeared in the area and that the Public Health Department has quarantined 14 Mazahua towns, in order to prevent the disease from spreading. He specified that the disease affects two inhabitants of the town of Santa Ana Niche, in the Mazahua area. The official stated that measures have already been undertaken to prevent the spreading of typhoid, which has not appeared in the area in 9 years. Miguel Angel Martinez Contreras, director of Medical Services in the State and Municipal Social Service Institute, reported that the personnel of that institution, in coordination with the Coordinated Services Branch of the Public Health Department, is remaining in the 14 communities of the Mazahua area, in order to control the outbreak of typhoid. He also said that the two afflicted persons are under treatment and have been isolated. [Text] [Mexico City UNOMASUNO in Spanish 7 May 83 p 24] 8255

CSO: 5400/2085

CHOLERA OUTBREAK REPORTEDLY UNDER CONTROL

Maputo NOTICIAS in Portuguese 22 Apr 83 p 2

[Text] According to the Maputo Provincial Health Department, the cholera outbreak which reached the Maputo area, is now under control. The Boane, Matutuine and Namaacha districts are still recording isolated cases in a considerably lesser number.

In the remaining districts, according to an authority connected with the Maputo Health Department, for over a month they have received no reports of positive cases of the disease.

In Changalane, Boane District, they recorded the last confirmed case on 11 April. In Catuane, Matutuine District, they noted the last positive cases about a month ago.

Suspected Cases

However, since last 15 April suspected cases (subject of laboratory confirmation) have occurred in Machangulo.

According to the same authority, they have already taken preventive measures and at present a health brigade is working in the Matutuine District in order to isolate the disease.

Sanitary units from the Maputo Province districts are on permanent alert to combat this epidemiological outbreak.

Our informant mentioned that in several districts where the situation is partially or entirely under control, there is a hospital ward provided for these cases, which should positive symptoms of the disease appear, makes instant isolation possible.

Regarding Machangulo, our informant also noted that suspected cases are connected with original sources which is why they have tapped every possible means available to combat this disease.

On the other hand, our reporters learned that one of the factors which has contributed to prompt epidemiological control was arousing the population

to a more meticulous compliance with the rules which the National Department of Preventive Medicine issued.

Maputo Number Reduced

At the Maputo city level, according to Dr Oscar Monteiro, from the Prophylactic and Medical Center, the situation is stabilized, although there still appear a lesser number of isolated cases.

Lately, according to the same source, they have recorded daily an average of three or four positive cases, some requiring hospitalization, and some incipient cases.

On the other hand, the doctor remarked that the major part of the cases lately occurring result from a spread of the disease from the Gaza Province, an area which, according to our informant, is still infected.

Do Not Disregard Preventive Measures

Both the Provincial Health Department and the Prophylactic Medical Examination Center made clear the people's need to observe the preventive measures which the National Department of Preventive Medicine recently promulgated.

Among these measures, there stand out the restrictions on moving to infected zones and greater caution in contact with people coming from these zones, since these individuals could be healthy carriers of the disease.

Also, in regard to observing the rules in areas where the people's water supply does not undergo adequate treatment, the water must necessarily be boiled. They should also take care with food eaten raw, and in the case of fruits and salads, they should first carefully wash them.

8870

CSO: 54-0/267

MENINGITIS EPIDEMIC REPORTED

Rangoon THE WORKING PEOPLE'S DAILY in English 7 May 83 p 7

[Text]

KATHMANDU, 5 May—At least 40 people are believed to have died of meningitis in three major cities of the Kathmandu Valley which has a population of 760,000.

But so far only five deaths have been officially confirmed.

The Nepalese Education Ministry has announced the closure of all schools from kindergarten to secondary schools in the Kathmandu Valley—which includes Kathmandu, Bhaktapur and Lalitpur and their outskirts—at least for 15 days from today following the meningitis epidemic.

It said the move was ordered on the advice of medical doctors.

Tribhuvan University has also closed all campuses in the three districts of the Kathmandu Valley for a week starting tomorrow in view of the spreading of meningitis in an epidemic form.

According to the university, three campus students have been hospitalized due to meningitis.

The Kathmandu Town Panchayat in a meeting yesterday has decided to form sanitation teams immediately as cleanliness is essential for combating this

contagious disease.

The Health Ministry has added additional beds in all Government-run hospitals to admit suspected cases of meningitis, whose number has increased sharply in the past two days.

Due to the shortage of beds in hospitals, patients are found lying on the floor with thin cotton cushions provided by the families of the patients.

Tests and examinations are also being conducted on those who come in contact with meningitis patients to determine whether they have contracted the disease, a Health Ministry spokesman said.

Meningitis symptoms are high fever, headache, nausea, rigidity of neck and unconsciousness. But in most cases, patients die within four hours of the diagnosis of the disease.

Though it is mostly the children who are susceptible to this bacterial attack but it has also been found in all age groups, a senior medical practitioner said.

The lack of proper medicine in local drug stores and well-experienced doctors are the main reasons for the failure to control the spreading of the disease for the past six weeks, observers here said.

The ratio of the doctors in the whole of Nepal is about one doctor to 40,000 patients.

CSO: 5400/4724

TOLERANCE OF INDIGENOUS MEDICINE RECOMMENDED

Karachi DAWN in English 14 May 83 p 7

[Text]

IN HIS letter to this newspaper, the President of the Pakistan Medical Association (Karachi) has pointed out the dangers of making "quacks equal to the qualified doctors". He interpreted our earlier comment on "Training for the quacks" to mean that we have suggested this. The arguments the PMA chief has advanced to contend that it would be suicidal to accept and recognise as a norm of life an evil which might have to be tolerated for some time, under the present circumstances are convincing and we have no hesitation in accepting that we were slightly mistaken in our understanding of the situation. Our suggestion that the unregistered practitioners be put through a fairly extensive training course and after a qualifying test be allowed to practise was made in the belief that in this way the interest of a large number of people who have little access to proper medical facilities would be served. For, after all, if one has a choice between a qualified practitioner and a quack, the choice one will make is obvious. Of course, the ideal situation would be that a sufficient number of doctors be available for placement in every area, so that there is hardly any scope or opportunity for quackery to persist as a socio-medical aberration.

There are said to be about

40,000 unregistered and untrained practitioners of quackery in business today. True, a large number of them are dispensing death and misery, but in the absence of adequate health cover for all, death and misery would still be the lot of those who happen to fall ill and have no medical help available to them. Here it will have to be acknowledged that in some illnesses health workers can play a vital role in providing not only relief but also remedies which could make all the difference between life and death. Diarrhoea in infants is a case in point and WHO also recognises the role that paramedics, health workers and the 'barefoot doctors' on the Chinese model can play in Third World countries. What is perhaps practical and feasible is that unregistered practitioners be given adequate training to enable them to qualify as paramedics or licentiates, as the case may be. Their status should, however, be clearly defined and made known, so that a clear distinction is made between them and a qualified MBBS. It is also important that their second-tier role in the health system be unambiguously defined.

That a large section of our people, not only in the rural areas but also in towns and cities, should be obliged to turn to quacks points to the sorry

state of affairs in the health sector. When medical facilities are not available or are financially beyond the means of the common man, it is not surprising that a sick person turns in desperation to whosoever promises him relief, even though momentary. This situation is all the more regrettable now that the sixteen medical colleges in the country are producing 4,500 medical graduates every year. It is paradoxical that, on the one hand, doctors are not available in adequate numbers even in many urban localities left alone the villages, and, on the other, young medical graduates are faced with the prospect of unemployment for long periods. This is obviously the result of wrong planning on the part of the Government whose primary responsibility is to provide the health cover to the people. It has failed to create the necessary medical infrastructure in the rural areas and the outlying localities of the cities. Dispensaries, health centres and clinics could have absorbed the medical graduates now passing out and in the process provided better health cover for the people.

Ambitious health plans the authorities are so fond of speaking about every now and again will take a long time to materialise, that is if they do at all. Meanwhile, doctors must be expected to explore the possibility of self-employment and

in the process contribute towards narrowing the existing health gaps. They have an organisation — the PMA — to protect their interests. It should not be beyond the PMA to act to generate employment for the young doctors. If an effort is made at an institutional level to set up small dispensaries in the poorer sections of the cities which are not adequately served by big hospitals, the PMA could create jobs for a large number of unemployed medical graduates. This would also help to meet a vital gap in the health sector. However, this scheme can work only if doctors enter their profession with a sense of dedication and service in the true Hippocratic tradition and do not view their practice as a business concern as many senior members of the profession are now inclined to do. The commercialisation of medicine is the biggest disservice medical practitioners can render to their cause and to that of society. As it draws up a plan to provide jobs for young doctors by setting up consulting rooms for group practice, the PMA should also seek to provide a strong orientation towards a more professional and less commercial approach. Now that more doctors are available it is important that they devote more time and attention to each patient they are called upon to treat and advise. Thus alone can the noble spirit, which was once the hallmark of the profession, be revived.

SHORTAGE OF NURSES DISCUSSED

Karachi DAWN in English 12 May 83 p 10

[Text]

There is a shortage of 1,815 nurses in the country as only 5,528 nurses are available against the requirement of 7,343 nurses on the basis of one nurse per seven beds.

According to the Health Ministry sources there are manifold reasons for shortage of nurses. These include low salary and few professional avenues.

In some areas there are insufficient recruits due to socio-cultural barriers, and where candidates are available the capacity of training school is limited.

A fair number of nurses produced is lost by emigration or marriages.

Through a combination of low staffing ratio, hospitals are dependent on student nurses whose training is frequently interrupted because of service demand. This combined with shortage of teaching facilities results in a high failure rate of 50 per cent.

The sources said the nursing training suffers from inadequate

funding for schools of nursing, schools have no separate budget and identity of their own. The need of services get preference at the cost of education.

The nurses are trained through a three-year programme in 45 schools of nursing with a total output of 503 students.

The postgraduate college of nursing at Jinnah Postgraduate Medical Centre, Karachi, offers one year course in ward administration and two years course in teaching.

The centre has produced more than 1,000 graduates since 1962. The present admission capacity is 50 students, and the faculty is working at 50 per cent of its sanctioned strength of teachers.

A head nurse is required for every 25 beds with bench-mark of 30,000 beds needing such services the requirement of head nurses is 1,200. The present stock of head nurses is 428. The additional requirement, therefore, is 750. — PPI.

CSO: 5400/4723

PANEL RECOMMENDS COURSES FOR PESH IMAMS

Lahore THE PAKISTAN TIMES in English 17 May 83 p 10

[Text] The panel, set up by the Government to formulate suggestions for the promotion of Tibb in the Sixth Five-Year Plan, has recommended that the certified Pesh Imams may also attend refresher courses and act as health educators as a step towards community participation in health programmes.

Besides, the panel has suggested setting up of a traditional medicine research institute and a council for medicinal botanics as autonomous bodies under the Ministry of Science and Technology.

Other recommendations are:

Colleges of traditional medicine be established with 50 bed hospitals each in the public sector. One of them should be in the Federal Capital and one each in the provincial capitals.

These colleges should impart training in 'unani' and homeopathic disciplines. The one in the Federal Capital should also have a department of Ayurvedic Medicine.

A national formulary for 'unani' drugs be prepared and an act for the unani' and homoeopathic medicines and drugs be promulgated.

Dispensaries of traditional system of medicine be set up in rural areas, not served by the modern system, including outdoor hospitals at tehsil, district and divisional level.

Structural and organisational adjustments at the Federal Health Ministry and provincial departments be made to implement these recommendations and grant-in-aid to homoeopathic and Tibbia colleges be increased.

CSO: 5400/4723

LEGIONNAIRES' DISEASE: REPORT OF A CASE

Beijing CHINESE MEDICAL JOURNAL in English No 2, Feb 83 pp 151-153

[Article by Kang Xiao-ming, Xia Xi-rong and Tang Zhong-qun, Nanjing East Zhongshan Road Hospital, Nanjing]

[Text] A case of Legionnaires' disease is reported with a brief discussion of the clinical manifestations and treatment.

Since the initial description of Legionnaires' disease in 1976, medical circles have gradually become acquainted with it. After prolific investigation of the many aspects of the disease including the etiologic agent *Legionella pneumophila*, epidemiology, pathology, immunology, multisystem clinical involvement, diagnostic methods and effective therapy, these are now well recognized. In our country many reviews have recently been issued, but so far no formal report has been seen. We report a case which we studied in June 1981. It was identified by IFA test at the Center for Disease Control (CDC) in the United States in Feb 1982.

CASE REPORT

A 23-year-old male PLA soldier was admitted on June 13, 1981 because of cough and fever for a week and hemoptysis for 13 hours. He travelled from Datong (Shanxi province) to Yangzhong (Jiangsu) on May 20. During his trip he contracted a mild cough with a small amount of mucoid sputum and slight dyspnea, his temperature was 37.8-39 C. Gentamycin was initiated on June 12. The next day hemoptysis occurred with more than 100 ml fresh blood, he was soon hospitalized. He had been in good health previously and denied use of cigarettes or alcohol.

Physical examination. Temperature 37.7 C, pulse rate 80, respiration 20, blood pressure 102/60, skin no jaundice or petechiae, superficial lymph nodes not enlarged, heart and lungs essentially normal, spleen and liver not palpable.

Laboratory findings. Leucocytes 11,200/mm³, N 79%, L 21%, blood platelet count 342,000/mm³. A trace of protein was found in the urine. ESR 92mm/hr, BUN 14 mg/dl, serum potassium 4.2 mEq/L, sodium 130 mEq/L, chloride 101 mEq/L, LDH 475 u, r-GT 88 u, GPT 40 u, IgG 1,760mg/dl, IgA 195mg/dl, IgM 186mg/dl, CH50 1:16, C₃ 185mg/dl. Routine blood culture negative; routine sputum culture revealed no pathogens. Culture and acid fast stain for tubercle bacilli were all negative. Arterial blood gas analysis showed pH 7.40, PCO₂ 40, PO₂ 77.2, normal acid-base status with moderate hypoxemia. OT test 1:10,000 was negative, cold agglutinin test 1:4, chest roentgenogram showed left perihilar infiltration.

Treatment and result. He received penicillin and gentamycin initially. One week later because of relapsed hemoptysis with large amounts of blood-tinged mucopurulent sputum, the therapy was changed to streptomycin combined with isoniazid but the fever persisted. Then rifampin was added, 3 days later his temperature normalized, hemoptysis stopped and the mucopurulent sputum diminished, but 4 weeks later the fever relapsed with severe chest pain, productive cough and hemoptysis. He became restless, nauseated, vomited, hiccupped and was then delirious.

Serial chest roentgenograms revealed in the original area mottled patchy infiltrations and

2 cavities located at the superior and posterior basal segment of the left lower lobe (Figs 1,2). Sputum culture yielded *Pseudomonas aeruginosa*, gentamycin and carbenicillin were administered 72 hours with no response. On August 20 erythromycin 2.0/day iv and rifampin 450 mg/day per os were begun, 5 days later he became afebrile, psychic symptoms subsided and he felt much better. However, pleuritic pain relapsed and fluoroscopy revealed slight pleural effusion. Diagnostic thoracentesis yielded straw-yellow fluid with RBC 400/mm³, WBC 18,100/mm³, N 90%, L 6%, Rivalta test positive. No organisms were detected by Gram's stain and acid-fast stain in the pleural fluid, glucose 123 mg/dl, protein 4,460 mg/dl, chloride 104 mEq/L, LDH 250 u, pH 7.365, PCO₂ 35, PO₂ 9. He improved clinically. On September 9 radiologic improvement was noted, both cavities had disappeared (Fig 3). He then received a total course of 3 weeks of iv erythromycin therapy and 4 weeks of leucomycin with rifampin per os. He recovered clinically with no neurologic residue on discharge.

The Legionnaires' disease polyvalent antigen IFA test performed by CDC on February 10, 1982, showed a 258 titer, with presumptive evidence of infection at unknown time.

COMMENT

Legionnaires' disease usually occurs in the middle-aged, most epidemics have taken place in the summer months but sporadic cases occur in all seasons.¹ Since our case is a young man with no epidemiologic information, diagnosis may be more difficult initially. The differential diagnosis should include tests for mycoplasma pneumonia, tuberculosis and a series for bacterial and viral pneumonia. "Pontiac fever" also shows seroconversion against *L pneumophila* by IFA test, but it is self-limiting, usually lasting only 2-5 days without evidence of pneumonia, so we excluded this diagnosis.²

As regards clinical and laboratory findings, pneumonia is the hallmark of Legionnaires' disease, classical symptoms usually include malaise, myalgia, chills, prostration, nonremittent fever, cough with blood streaked sputum. 30 to 40% of the patients have chest pain, 50% relative bradycardia, some

have pulmonary cavitation, confusion and delirium, 15-40% minimal pleural effusion. In this case the exudative pleural effusion with pH 7.365 suggests infectious origin.

Mild to moderate leucocytosis, sedimentation rate elevation, mild abnormalities in liver function and hyponatremia have been reported, the latter probably due to the syndrome of inappropriate ADH secretion. Hypophosphatemia and relative hypophosphatemia (P BUN ≤ 0.04) are noted in those with renal insufficiency. All these findings show multisystem involvement, but no consistent extrapulmonary lesions have been detected.³ Since *L pneumophila* contains an endotoxin-like substance it is reasonable to speculate that extrapulmonary manifestations are related to bacteremia and/or toxemia.⁴

Erythromycin is the drug of choice. It should be continued not less than 3 weeks, otherwise relapse or prolonged convalescence may occur. In this case despite the persistent fever, delirium and pulmonary cavitations, erythromycin and rifampin therapy achieved an excellent response. Lake et al¹⁵ reported a similar case with large lung cavity (9 cm in diameter) and IFA titer at 1,024, who recovered on erythromycin and rifampin. Rifampin may be effective but when used singly, resistance is developed. When combined with tetracycline or erythromycin it is probably more effective. Edelstein et al⁶ reported 2 patients with pulmonary cavitations caused by *L pneumophila*, he suggested prolonged therapy with either erythromycin or erythromycin with rifampin.

Acknowledgement: We are grateful to Dr Wu Guo-liang for his advice.

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CSO: 5400/4142

HEMORRHAGIC FEVER WITH RENAL SYNDROME IN CHINA EXAMINED

Beijing CHINESE MEDICAL JOURNAL in English No 4, Apr 83 pp 265-268

[Article by Jiang Yu-tu, Academy of Military Medical Sciences, Beijing:
 "A Preliminary Report on Hemorrhagic Fever With Renal Syndrome in China"]

[Text]

The distribution and incidence of hemorrhagic fever with renal syndrome in China was reported. There is a tendency of increase in the incidence of the disease in the whole country in recent years. The factors influencing the disease incidence are rodent density of the affected areas and the size of area of the rice paddy fields. Deratization is proved to be an effective measure in the control of hemorrhagic fever with renal syndrome.

Hemorrhagic fever with renal syndrome (HFRS) has been known to exist in Heilongjiang province, in northeast China since 1934-1935 when military surgeons of the Japanese occupational forces in those areas reported the occurrence of hemorrhagic fever-like disease in their soldiers and the local people. It was reported that among a million Japa-

nese Guandong Army soldiers, there were about ten thousand suffering from this disease.¹ The illnesses were called Sunwu Fever or Erdaogou fever etc. after the names of the towns or villages where the disease was reported. There was no report in other parts of the country until 1955, when similar hemorrhagic fever-like cases began to be reported in various parts of the country. Up to 1980, 15 provinces had reported the disease (Table 1).

From Table 1 it can be seen that the annual incidence of HFRS varies between 0.03 per 100,000 in Fujian and 12.98 per 100,000 population in Hubei, and the case fatality rate (CFR) varies between 5.54% in Heilongjiang and 18.59% in Liaoning. The high Liaoning CFR may be due to under-reporting.²

There is a tendency of increase in the disease incidence in recent years. In 1980,

This report was presented in the HFRS Working Group, sponsored by the WHO WPRO in Tokyo, Japan in February 1982.

Table 1. HFRS incidence in 14 provinces and Shanghai Municipality

Provinces	Year of HFRS first reported	Years of reported cases	Cases	Incidence rate (/100,000)	Deaths	Case fatality rate (%)
Heilongjiang	1935	1972-76	9,313	5.89	516	5.54
Jilin	1955	1972-76	5,173	4.30	438	8.46
Liaoning	1955	1972-76	425	0.23	99	18.59
Shaanxi	1955	1972-77	7,726	4.68	998	12.92
Hubei	1955	1972-75	23,189	12.98	2,315	9.21
Anhui	1957	1973-77	4,322	2.08	327	7.57
Shanghai	1957	1972-77	756	1.16	79	10.45
Sichuan	1958	1972-76	2,386	0.50	272	11.40
Jiangsu	1960	1972-76	5,304	1.90	353	6.65
Jiangxi	1961	1972-76	8,518	5.95	1,002	11.76
Guizhou	1962	1972-76	303	0.23	39	12.87
Zhejiang	1963	1972-77	2,498	1.14	142	5.68
Hunan	1963	Oct/1971-Sept/1976	4,399	1.74	440	10.00
Fujian	1972	1972-76	38	0.03	No data	
Shandong	1973	1973-77	735	0.21	106	14.42

23 provinces or autonomous regions reported the disease. Formerly, HFRS was limited to its natural foci in mountainous regions or other rural areas. At present, a few cities such as Xi-an have reported it. In 1980, there were 30,464 cases with 1,960 deaths reported from 23 provinces or regions and the overall annual incidence was 3.13 per 100,000 with a CFR of 6.43%. In 1981, the number of HFRS cases reported reached forty thousand.

So far, there have been no reports of HFRS or only a few cases reported from the following provinces or regions: Guang-

Table 2. HFRS incidence in several provinces 1980

Provinces (Regions)	Counties in the province	Counties with HFRS	Cases	Incidence (/100,000)	Deaths	CFR %
Guizhou	83	20	3,099	1.95	169	5.45
Jiangsu	64	48	10,273	5.11*	523	5.09
Jiangxi	98	51	10,363	5.49	—	—
Hubei	79	65	3,984	8.95	331	8.31
Shaanxi	58	39	3,274	29.59	281	8.57
Shanghai	10	10	195	1.77	13	6.67
Sichuan	194	93	1,521	1.59	149	9.80

Table 3. Differences in HFRS incidences in males and females, Lantian, Shaanxi

Year	Male			Female		
	Population	Cases	Incidence (/100,000)	Population	Cases	Incidence (/100,000)
1975	261,369	40	15.30	251,173	16	6.37
1976	265,221	49	18.48	253,210	13	5.13
1977	267,186	33	12.35	257,008	2	0.78
1978	270,191	9	3.33	258,597	4	1.55
1979	271,121	137	50.53	259,870	38	14.62
1980	271,978	568	209.54	261,231	327	125.28

dong, Guangxi, Qinghai, Gansu, Ningxia, Tibet, Xinjiang, Shaanxi and Beijing, as well as Taiwan. The number of cases and deaths between 1975 and 1980 from available data are listed in Table 2.

From Table 2 it can be seen that Shaanxi has the highest incidence of HFRS whereas Shanghai has all its 10 counties infected by the disease.²

The sex and age distribution of the HFRS are shown in Tables 3 and 4.

From Table 3, it may be noted that the sex incidences were always higher in the males than in the females. This may be due to the fact that there are always more men working in the field than women. From Table 4, it is shown that the peak attack rate is in the 30-39 age group, although people of any age can be infected.²

There are 2 patterns of seasonal variation of HFRS. Type one shows 2 peaks yearly, the first in April and/or May and the second from October to December, whereas the other type peaks only once at the end of each year. Table 5 shows seasonal

variation of HFRS in the rural areas of Hunan and Heilongjiang provinces. The former shows 2 peaks while the latter shows only one peak in winter. This may be because, in Hunan, there are 2 harvests every year while in Heilongjiang only one.²

Factors influencing the disease incidence appear to be rodent density, especially *Apodemus* density (Tables 6, 7); number of rodents killed during deratization, influencing the disease incidence inversely (Table 8); and the area of the paddy fields which seems to affect the incidence rate (Tables 9, 10).

Table 4. Age distribution of HFRS patients

Age group	Cases	Incidence (/100,000)
0 — 4	1	0.01
5 — 9	6	0.03
10 — 14	28	0.12
15 — 19	114	0.47
20 — 29	467	1.48
30 — 39	408	1.56
40 — 49	325	1.31
50 — 59	217	0.25
≥ 60	71	0.41

Table 5. Seasonal variation of *Apodemus* density and HFRS incidence

Year	Month	Hunan (Xupu county)		Heilongjiang	
		Mouse density /100 trap days	Cases	Mouse density /100 trap days	Cases
1980	Jan	—	—	31.5	108
	Feb	—	—	27.9	44
	Mar	4.01	11	25.5	10
	Apr	4.99	20	22.1	22
	May	8.16	23	11.8	18
	June	12.9	15	20.2	38
	July	5.4	4	16.0	19
	Aug	10.7	9	17.8	12
	Sep	16.7	17	37.8	43
	Oct	11.4	49	46.8	129
	Nov	13.8	217	39.3	235
	Dec	13.5	336	28.6	144
1981	Jan	7.63	229	—	—
	Feb	1.29	37	—	—

Table 6. *Apodemus* density and HFRS incidence in Anhui

Year	<i>Apodemus</i> density (/100 trap days)	Incidence (/100,000)
1975	4.79	7.94
1976	14.08	10.07
1977	13.16	14.61
1978	10.80	3.75
1979	15.97	7.91

Table 7. *Apodemus* density and HFRS incidence in Sichuan

Year	Month	<i>Apodemus</i> density (/100 trap days)	Incidence (/100,000)
1976	Sept	16.5	8.7
1977	April	5.3	0.9
	Sept	7.1	6.1
1978	April	1.7	0.8
	Sept	11.0	1.7
1979	April	0.7	0.6
	Sept	14.1	5.0
1980	April	0.7	1.3
	Sept	12.3	12.5

From Tables 6 and 7, it may be noted that HFRS incidence was high when the *Apodemus* density was high and it decreased when the *Apodemus* density dropped. Table 8 shows that the number of HFRS cases increased when the number of rodents killed was low. Tables 8 and 9 show that the more wide spread the paddy fields, the higher the incidence of HFRS and the larger the area of paddy fields the higher the rodent density.²

Table 8. Deratization and HFRS incidence in Sanlin commune, Shanghai

Year	Rodents killed	Cases
1975	26,199	3
1976	29,596	5
1977	18,988	2
1978	6,067	7
1979	4,431	4
1980	1,118	12

Using KHF antigen on cell line A-549 and Vero cell E-6 provided by Drs Eddy and French of the USAMRIID, we have tested the serum samples of patients of Liaoning, Heilongjiang, Hubei, Jiangsu, Anhui, Sichuan, Hebei and Tianjin.³ Nearly all the patients' sera were positive while those of normal persons and patients with other diseases were negative.

More recently, using the human lung carcinoma cell line A-549 and Vero E-6 cell, we have isolated the HFRS virus from serum samples of 21 HFRS patients in the endemic areas in Liaoning province.⁴

The most effective measure in controlling this disease is deratization. The experience of the Chengxihu Farm in Anhui is presented in Table 11.³

The rodent density and the incidence of HFRS of the Chengxihu Farm were very high before and at the early stage of deratization in 1970. It can be seen that as the continuous deratization campaign was carried out, the rodent density reached a very low

Table 9. Relationship between crop cultivated and HFRS incidence in Lantian, Shaanxi

Year	Predominant rice-cultivation communes			Others communes		
	Paddy area (mu)	Cases	Incidence (/100,000)	Paddy area (mu)	Cases	Incidence (/100,000)
1975	24,009	41	17.6	5,314	15	6.44
1976	24,010	42	17.67	5,063	20	7.12
1977	23,997	28	11.43	4,417	7	2.45
1978	23,610	8	3.34	4,501	5	1.73
1979	23,416	142	59.19	3,896	33	11.34
1980	23,364	680	283.22	3,880	190	64.82

Table 10. Paddy area and HFRS incidence in Ganyu, Jiangsu

Paddy % of total arable land	Trap nights	Rodents trapped	Mouse (/100 trap nights)	Population	HFRS cases	Incidence (/100,000)
45	4,575	72	1.57a	196,648	62	31.53d
46 - 75	3,290	154	4.68b	474,594	251	52.89e
76	5,653	114	2.02c	71,187	16	22.48f

a vs b $p < 0.01$
b vs c $p < 0.05$
d, e, f, $X^2 = 22.80$,
degree of freedom = 2, $p < 0.001$

Table 11. Changes in rodent density before and after 10 years of deratization 1970-1980 and reduction in HFRS incidence in Chengxihu Farm, Anhui

Period	Deratization	Rodent density (/100 trap days)	HFRS incidence (/100,000)
Prederatization	1966	17.74	5.93
	1967	43.67	26.00
	1970	25.78	22.81
Early deratization	Dec 1970- Nov 1971	14.96	13.20
Subsequent years of deratization	Dec 1971- Nov 1972	2.0	1.46
	1973	2.36	4.08
	1974	1.39	3.90
	1975	0.58	.062
	1976	0.18	0.31
	1977	0.45	0.62
	1978	0.06	0
	1979	0.62	0
	1980	0.24	0

level and, as a result, the HFRS incidence became null. It seems that deratization is the most important method of controlling HFRS.

Deratizations procedures in Chengxihu Farm, Anhui.² Poisoning with sodium fluoroacetate (1080), zinc phosphide, or warfarin. Killing of rodents in their holes by inserting smoking firecracker into one opening while plugging all the other opening with earth or soil. Formulas of the smoking firecracker: sawdust 50%, ammonium nitrate 50% for 25 gm firecracker; or DDT or BHC 20% and sawdust and ammonium nitrate 40% each, for 15 gm firecracker. Other necessary measures: Raise the standard of environmental sanitation, especially cut down the sources of rodent food supply. Kill rodents in large field areas mainly with smoking firecracker supplemented by poisoning. Large areas are covered at least once yearly, sometimes once every 6 months. Use different poisons alternately to avoid building up rodent's resistance against the poisons. The best time for deratization is in winter when rodent food supply is low.

HEMORRHAGIC FEVER VIRUS FORM DISCOVERED IN INFECTED CELLS

Beijing CHINESE MEDICAL JOURNAL in English No 4, Apr 83 p 261

[Text]

China has discovered, for the first time, the form of hemorrhagic fever virus (HFV) in infected cells.

Research workers of the Morphology Section and Epidemic Diseases Group of the Institute of Virology, Chinese Academy of Medical Sciences have recently found HFVs within and without the infected cells under the immunoenzyme electron microscope. Through repeated observations and morphologic studies of virus strains they found that these viruses differ greatly in form from the Bunya virus. Generally, the Bunya virus is 95 mu in size, while the newly discovered is much larger, averaging 122 mu. The mode of growth and development is also different.

The mortality of hemorrhagic fever is high. Opinions about the form and category of HFV have been controversial. In April last year, virologists of the US reported from South Korea a granular form of virus similar to Bunya virus in the cell culture of HFV. However, they have so far not discovered this in infected cells.

Chinese virologists, cooperating with the anti-epidemic health workers from some provinces and municipalities, studied the causes of hemorrhagic fever. In 1981, a breakthrough was made in this respect by isolating the epidemic HFV from *Apodemus agrarius*. Subsequently, they succeeded in isolating the related pathogens from *Rattus norvegicus* with mild symptoms in the hemorrhagic fever epidemic areas. Thus, it was for the first time indicated that in China there exists another mild type of hemorrhagic fever, the isolated virus is closely related to the typical HFV, and *Rattus norvegicus* is the responsible agent for the infection.

CSO: 5400/4149

ABSTRACTS FROM CHINESE MEDICAL JOURNAL

Beijing CHINESE MEDICAL JOURNAL in English No 2, Feb 83 p 156

[Text]

Epidemiology of Tuberculosis in Changchun in 1952-1980. Liu Zhao-yu, et al. Chin J Tuberc Resp Dis 5(3):149, 1982.

This article analyzes the epidemiology of tuberculosis occurring from 1952 to 1980 in Changchun. In this period the tuberculosis mortality declined from 171.1/100,000 to 13.6/100,000. Its constitution in the total deaths from various diseases declined from 15.8% to 2.9%. The incidence of tuberculosis declined from 3.8‰ in 1965 to 1.5‰ in 1980, and its morbidity from 3.5% in 1959 to 0.5% in 1980.

Two Years Follow up of Pulmonary Tuberculosis Cases in 1979-Sampling Survey Points in Shanghai. Huang Jian-sheng, et al. Chin J Tuberc Resp Dis 5(3):151, 1982.

The 2-year therapeutic effect and epidemiology among patients in 130 epidemiologic sampling survey points are reported. This rate of regular medication in the urban was 84.1% and in the suburb 77.4%. Sputum conversion rate in the urban was 81.8% and in the suburb 68.9%. Relapse rate of originally being taken as "quiescent cases" was 7.6% among which

sputum positive relapse rate was 4.3%. During the 2-year follow up period fatality rate in the urban was 3.1% and in the suburb 7.0%, while the mortality rate in the urban was 6/100,000 and in the suburb 11/100,000. There were 111 cases newly registered (2.6/10,000). Prevalence rate and sputum positive prevalence rate in the urban were 3.7‰ and 1.3‰, a decrease of 1.5‰ and 1.6‰. In the suburb area the corresponding figures were 3.3‰ and 1.2‰, and 1.3‰ and 0.6‰.

Tuberculosis in 32 Random Selected Point in 1979 Reexamined in 1980 in Anhui Province. Jin Zi-zhong, et al. Chin J Tuberc Resp Dis 5(3):155, 1982.

The material dealt with in this paper consisted of the infection rate and morbidity of tuberculosis in 32 randomly selected areas in Anhui Province in 1979 and 1980. The average infection rate in children was 11.4%, annual infection rate 1.7%, and morbidity rate 1.0%. Positive sputum smear morbidity was 2.4⁰/₀₀, attack rate 2.1⁰/₀₀, and smear positive attack rate 0.4⁰/₀₀. The death rate was 25.2/100,000.

CSO: 5400/4142

SOUTH AFRICA

BRIEFS

CHOLERA DEATHS--CHOLERA claimed another victim this week in Utrecht, Natal, bringing the total number of deaths in the current epidemic to 54, the Department of Health and Welfare said in Pretoria yesterday. Since the outbreak last August, 19 269 people had been treated for the disease, a spokesman for the department said. Of these, 4 339 cases had been confirmed as cholera in laboratory tests. Natal has reported 3 712 cases and 28 deaths. [Text]
[Johannesburg THE CITIZEN in English 28 May 83 p 9]

CSO: 5400/273

BRIEFS

MALARIA ALERT--The Malaria Control Unit has issued a "red alert" following the death of a man and several reports of malaria cases in the Simunye area. The unit is working round the clock to trace possible "carriers" of the disease and to treat people in the area in a bid to prevent the infectious disease from breaking to epidemic proportions. The man died of malaria at Simunye clinic after contracting the disease. A spokesman for the Malaria Control Unit in Manzini has warned: "Beware, the disease may reach crisis proportions." Senior health officer Hezekiel Mathabela confirmed that the victim died 30 minutes after being admitted to the clinic. Permanent secretary of health, Mr Tim Zwane said the killer disease was being brought by Mozambicans crossing the borders to the Lubombo District. [Excerpt] [MB031115 Mbabane THE TIMES OF SWAZILAND in English 3 Jan 83]

CSO: 5400/278

NATION TESTING DRUG FOR ELIMINATION OF WORMS IN CHILDREN

Lusaka TIMES OF ZAMBIA in English 11 May 83 p 5

[Text]

ZAMBIA is among countries now testing a newly developed drug for the elimination of all types of common worms in children below two years.

The tests are being conducted by Dr Munerpallam Gaghu at Lusaka's University Teaching Hospital (UTH) children's wing.

The tests were disclosed at a recent symposium on the treatment of the common worms. The new drug is given in one dose of between 200 and 400 gms of zentel (albendazole) and is already on the market.

The symposium was organised by the Smith Kline and French Laboratories (SKF) at a Lusaka hotel on Monday attended by local pharmacists, professors and paediatricians.

The tests were first carried out by two doctors at the University of Nairobi in Kenya in 1981.

They are Professor Nimrod Bwibo, who is chairman of the department of paediatrics and Dr Hannington Pamba.

Prof Bwibo told the symposium that the examination of the drug (at the time it was only used as a sample) between May, June and July, was done in western Kenya where parasites were common because it was a low land.

It was proved that only one dose of the drug killed all the common worms in separate subjects on whom it was administered within one week and five weeks after treatment respectively.

A single dose of zentel eliminated the hookworm, trichuris and escharis worms, tape worm and strongy loides worm, as opposed to drugs that treated the worms separately.

The tests were carried out on children of the nine to 17 years age group with an average of 13.2 years. The drug was also found to be non-toxic and easily administered.

During the period of the tests trial treatment of children suffering from worms was being administered in West Africa, Egypt, other parts of East Africa, South America and Southeast Asia.

CSO: 5400/269

BRIEFS

COPPERBELT MALARIA OUTBREAK CONTROLLED--THE outbreak of malaria which hit the Copperbelt has been put under control, provincial medical officer Dr Vynayak Ganu said in Ndola yesterday. Dr Ganu said the province was out of danger now as the disease which affected many people over the past few months no longer posed a threat. For sometime the province did not have money for preventive treatment but now the situation was under control, he added. Dr Ganu could not give figures of the people admitted in hospitals with malaria because "I get my statistical data three months in arrears". [Text] [Lusaka TIMES OF ZAMBIA in English 7 May 83 p 2]

ISOKA DISTRICT MEASLES DEATHS--EIGHT Children have died from measles since last month in Muyombe area in Isoka district. Senior medical assistant in charge of Muyombe rural health centre Mr Sheppard Kabwe said 23 other children had been admitted at the centre suffering from measles. Mr Kabwe said the area had been hit by measles since late last year. [Text] [Lusaka SUNDAY TIMES in English 8 May 83 p 1]

CSO: 5400/274

MALAWI

BRIEFS

FOOT-AND-MOUTH DISEASE PREVENTION--ANIMAL products should not be allowed to enter Malawi from Mozambique, the veterinary officer for the Lower Shire Valley districts of Chikwawa and Nsanje, based at Ngabu has said. In a circular letter to all veterinary staff in both districts, the officer alerted the staff on the report from Maputo, Mozambique on the outbreak of foot and mouth disease there. [Text] [Blantyre DAILY TIMES in English 10 May 83 p 1]

CSO: 5400/268

BRIEFS

SWINE CHOLERA IN SONORA--Guaymas Sonora, 7 May--Swine cholera was responsible for the death of 350 pigs, and an equal number suffering from the disease were buried alive in the city dump. Animal health officials, led by Serio Oros Barcenas, said that the disease was detected when the owners of three local breeding farms reported that the owners of veterinary pharmacies, in order to increase sales, did not accurately diagnose the disease of the animals. Oros Barcenas indicated that a health cordon had been established in the northern section of Obregon City, and it was discovered that the disease had spread into the outskirts of the Las Guasimas area and 350 pigs had died with an equal number being infected. The official stressed that the pharmacy owners had acted in an irresponsible manner in selling massive quantities of sulphur and drugs that uninformed breeders bought to cure their animals. When it was discovered that the center of infection was the local dumps, another health cordon was set up in order to fumigate the area to prevent the spread of the disease. Owners of the pig farms agreed to the killing and incinerating of the 700 animals in a common grave into which the 350 dead pigs and the other contaminated ones on the hoof were thrown in order to prevent the spread of swine cholera. [Text] [Sonora EXCELSIOR in Spanish 8 May 83 p 5D] 9787

CSO: 5400/2084

ETOSHA'S KUDU POPULATION HIT BY RABIES

Windhoek THE WINDHOEK ADVERTISER in English 17 May 83 pp 1, 3

[Text]

RABIES has broken out amongst Etosha's kudu population, causing the Department of Nature Conservation to reconsider its plans for night culling in the game reserve this year.

Assistant Director in Charge of Research Dr Eugene Joubert, confirmed in Windhoek this morning that of the seven kudu deaths in Etosha since mid-April, all have been positively identified as having been caused by the disease.

"But we are not concerned at all since we regard the deaths as a form of natural population control," Dr Joubert said.

There was presently an over-abundance of kudu in the Namutoni area of Etosha and the Department had been considering night culling to reduce the numbers.

SHELVED

But now that rabies has broken out there, these plans will probably be shelved, Dr Joubert added.

Until now a heavy work programme in Etosha — including elephant culling — has delayed the introduction of kudu night culling in the Reserve.

Nature Conservation was "watching the situation very closely, and

regular game patrols have been alerted to report any further cases of suspected rabies."

The dangers of the disease spreading to other species were not considered to be large, Dr Joubert said.

Although there was such a danger, research up till now had proved rabies to be specific.

Experiments at Daan Viljoen to artificially introduce rabies to other species, had failed.

NO FEARS

Although unconfirmed reports of rabies amongst eland have been reported by farmers in the north, there were no fears for the rest of Etosha's game population by Nature Conservation.

The rabies outbreak in Etosha did not come entirely as a surprise, said Dr Joubert.

Last year kudu died from the disease in the Waterberg Plateau Park. This was in line with the gradual northward movement of occurrences of the

disease since its first outbreak on farms in the country's central districts in 1979.

In the southern districts, where the estimated 8 000-strong kudu population was widely dispersed, the disease had been kept naturally in check.

And in the more concentrated central and northern districts, the 20 to 30 percent kudu surviving the ravages of rabies had built up a natural immunity in new generations.

If this pattern reproduced itself in Etosha, there was nothing to worry about and the rabies that spread north of the Red Line would be regarded as a natural population control mechanism, according to Dr Joubert.

The spread of rabies into the northern farming districts had become more serious since the beginning of this year, and it was expected at some time, that the disease would cross the Red Line into Etosha.

It was difficult to estimate the kudu population in the game reserve because the animals are notoriously difficult to count, hiding motionless under trees.

Another obstacle to the introduction of night culling in Etosha was the absence of facilities for handling the meat processing.

CSO: 5400/273

NORWAY

DISEASE CAUSING LOSSES TO SALMON FISHERIES

Oslo AFTENPOSTEN in Norwegian 24 May 83 p 44

[Article by Mariann Nordstrom: "The 'Hitra Disease' Plagues Salmon Farming: The Disease Will be Surveyed Next Summer"]

[Text] Many salmon farms in the Trondelag are currently suffering from the ravages caused by the so-called "Hitra Disease," and in the Faroe Islands two salmon farms have lost half of the fall salmon stock after an outbreak of the disease last week. The district veterinarian Knut Ronningen in the Faroe Islands says that the outbreaks are serious and probably will cause loss of millions to the owners. This summer a large research project will be started in order to find the causes of the disease which is viewed as a serious threat to the industry.

The "Hitra disease" first appeared in 1977 and since then it has appeared more and more frequently. The disease got its name from Hitra where the first extensive cases occurred.

Ronningen says that the disease hits hard and that the symptoms are many so-called floaters, almost immobile fish which float high in the water. Bleeding also occurs in the body skin. The salmon is normally ready for fishing after 2 years in the sea. The salmon suffering from the "Hitra disease" is unfit for human consumption and must be discarded. Treatment of the disease has proven difficult and the fish that survive the disease are often way behind in maturity. It is therefore possible that the salmon farms affected in the Trondelag may be faced with having almost no salmon ready for consumption next year. Some of the losses will be covered by insurance, but farms which are hit by this serious salmon disease can expect considerable losses in production. In addition, considerable extra work is caused by removing dead fish which may surface by the thousands in one day.

Researcher Trygve Poppe at the Veterinary Institute in Oslo says that there is currently very little known about what causes the disease. "We think that there are many combined factors that interplay and that strain is an important factor," says Poppe.

Poppe will participate in a comprehensive study under the direction of the Norwegian Research Council for Science and the Humanities in order to look for and determine the reasons for the disease. This research project will start next summer and the researchers will study approximately 30 salmon farms from Tromso to Stavanger. Ten of the farms will be studied intensively and samples will frequently be taken of fish, water and feed.

"We think it is an interaction of various factors such as blooming of seaweed, sudden temperature changes, conditions relating to the feed or feeding that release the "Hitra disease." Conceivably this is a production ailment which can be corrected by adjusting operational and feeding routines," says Poppe.

9583

CSO: 5400/2545

ATTENTION MUST BE PAID TO PREVENTION, CONTROL OF BOVINE EPIDEMICS

Hanoi NHAN DAN in Vietnamese 19 Apr 83 p 4

/Article: "Prevention and Control of Bovine Epidemics"/

/Text/ Recently, an epidemic of trypanosomiasis and foot-and-mouth disease appeared in Thanh Hoa. The provincial people's committee and agricultural service urgently addressed the problem, and took concrete measures to prevent and control the epidemic. Epidemic prevention and control committees have been set up in the province and villages, under the leadership of the vice chairman of corresponding people's committees. Livestock slaughter was strictly prohibited in affected areas. Hundreds of technical cadres, teachers, and students of agricultural schools brought veterinary equipment and drugs into cooperatives to guide peasants in their fight against the epidemic, and to vaccinate buffaloes and cattle. In recent days, trypanosomiasis has been checked; however, a number of bovines affected by foot-and-mouth disease have not yet recovered. Thanh Hoa has identified that the foot-and-mouth disease is caused by the bacteria necrobacin, and has found that it can be treated with streptomycin injections and purasolidon ointment. Besides this, barns and stables must be cleaned up, disinfected, and kept dry and aerated.

Provinces and cities must pay attention to preventing this bovine epidemic. Measures must be taken to keep equipment as well as prevention and control drugs handy, promptly to detect epidemics, to stamp them out right after the outbreak, strictly to enforce epidemiologic regulations, to prohibit slaughter and transportation of buffaloes and cattle in affected areas, and to maintain proper hygiene at barns and stables.

9213

CSO: 5400/4421

BRIEFS

BOIL SMUT CAMPAIGN--Boil smut is an ailment that has never been reported in this State and the Government is anxious to keep it that way. And before you go looking anxiously in the mirror, you can rest assured that boil smut will affect you only if you grow maize, sweet corn or popcorn. It is in fact a plant infection. The WA Department of Agriculture warned yesterday that boil smut was reported in Queensland and NSW last year. It said that additional regulations now affected the import of corn seeds to WA. Boil smut was a fungal infection that caused blisters on the above-ground parts of corn plants. Spores produced in the swelling could be borne away by wind to contaminate soil for many years. Any maize seed, sweet corn or popcorn imported into WA in future must carry certification from the Department of Agriculture in its state of origin to show that it came from an area free of the disease. In the case of seed for planting, there had to be an additional certificate to prove that the seed was cleaned, graded and packed in premises where seed from infected areas was not handled and that an approved fungicidal treatment was applied. [Text] [Perth THE WEST AUSTRALIAN in English 18 Apr 83 p 25]

RUST EPIDEMIC WARNING--The Agriculture Department has warned Great Southern cereal growers of a possible rust epidemic in crops this season. A lot will depend on the weather. A department plant pathologist, Dr Tanveer Khan, said that stem rust had been found on self-sown oats and wheat in the Esperance area. A study of previous rust epidemics in WA had shown that, when a severe epidemic occurred, rust was common in the previous season's crops, infected self-sown plants were produced by summer rains and there was a warm winter followed by a wet spring. The first two conditions had already been met. "We are warning farmers in susceptible areas to sow at least part of their crops to one of the rust-resistant varieties," Dr Khan said. [Text] [Perth THE WEST AUSTRALIAN in English 21 Apr 83 p 49]

'KILLER' WASP THREAT--Melbourne: Australia is being infiltrated by a new breed of foreign killer wasps, according to Dr Struan Sutherland, a venoms expert at the Commonwealth Serum Laboratories. The invasion force had been steadily gathering force for some years, he said. "The European wasp is as dangerous as a stinging insect can be," Dr Sutherland said. "An allergy can be caused after a succession of stingings and, if severe enough, the victim will experience a swelling at the back of the throat, a rash and maybe even lung spasms. The stings can therefore be fatal--you

can be dead in a few minutes." Dr Sutherland said he did not normally support the destruction of venomous creatures but felt that, because the European wasp was foreign, it had little ecological value in Australia. "They attack other insects and this will have adverse effects, particularly for bee-keepers," he said. "There are millions of them around in Melbourne and Sydney, but Perth was lucky to get rid of them quickly." Asked why he thought the situation had been allowed to worsen, Dr Sutherland said: "Apathy--either people don't know about them or they don't really care. But next summer they will really know when the wasps are all over the place." The nests were big and were best destroyed at sunset or late evening when the wasps had returned. [Text] [Perth THE WEST AUSTRALIAN in English 26 Apr 83 p 33]

CSO: 5400/7579

AGRICULTURE DEPARTMENT BEGINS CAMPAIGN AGAINST RICE DISEASE

Singapore THE STRAITS TIMES in English 15 May 83 p 7

[Text] KUALA LUMPUR, Sat. — The Department of Agriculture has declared all-out war against the Penyakit Merah Viral padi disease, which is threatening the livelihood of padi farmers in the country's "rice bowl".

A three-year campaign, beginning this year, has been planned to fight the disease.

The disease has become the scourge of more than 32,500 farmers, who between them cultivate 171,700 ha of padi in Perak, Perlis, Kedah and Penang.

The director-general of the department, Datuk Ahmad Yunus, said there was now a need to pool resources and battle the disease with a single-mindedness which had been lacking in the past.

He said previous battles against the disease had been hampered partly by uncoordinated efforts and ignorance of farmers, which had made some of them uncooperative.

Datuk Ahmad said the campaign would lay emphasis on educating farmers, destroying infected sources and controlling the disease carrier.

Surveillance and forecasting would also be stepped up and varieties of padi resistant to the disease would be planted.

Datuk Ahmad said that from the beginning of this year till the end of April, 11,711 farmers had

been trained to control the disease.

"We hope to make control part and parcel of the farmer's routine," he added.

Datuk Ahmad said they would try to get more farmers to help in destroying infected sources (stubbles and weeds) by burning, ploughing and spraying insecticide.

They have already been doing this on 64,059 ha of padi land and surrounding areas infected by the disease.

The department will also help control the carrier of the disease, the green leaf hopper, in nurseries and transplanted fields by supplying farmers with pesticide.

Datuk Ahmad said tolerant varieties of padi would be planted in disease-prone areas.

"These varieties have been planted on a large-scale before and were found to be high-yielding," said Datuk Ahmad.

He said research would continue into the production of resistant strains of padi so that farmers would not be caught off-guard should the virus develop immunity against existing varieties.

Although the disease has so far been restricted to the four northern states which constitute the country's "rice bowl", the department has not discounted the possibility of the disease spreading to the east coast or even as far south as Johore. — NST.

NORTHWEST RICE CROP ENDANGERED

Singapore THE STRAITS TIMES in English 12 May 83 p 13

[Text]

THE 1983 padi crop in the north-western states may be completely wiped out by disease unless emergency measures are taken now.

The *penyakit merah* viral padi disease, which first appeared four years ago, is now the most dangerous enemy of padi farmers in Perak, Perlis, Kedah and Penang.

Unless action is taken by all padi farmers in these states, as much as 171,700 hectares of padi land may be wiped out.

"By the time you see it, it's too late. Here we are dealing with an outbreak which comes fast and kills fast," warned Mr Talib Majid, director of crop protection in the Agriculture Department.

"All the states must follow the same programme. If we say burn (the infected crops and grasses), then the farmers must burn. When we say spray (pesticides and weed-killers), then all must spray.

"We have the methods, but success will depend on the farmers," Mr Talib said.

Five years ago only 4 ha were affected — all in the Kerian district.

The next year, the toll was 202 ha and the disease had spread north to Penang.

By 1981, the scourge hit the rice-bowl states of Kedah and Perlis and destroyed 13,000 ha — an estimated loss of \$17.2 million worth of padi to farmers.

Last year, the loss was estimated at a whopping \$23.25 million.

The disease strikes during the off-season in areas under double-cropping, covering the months from March to July/August.

During this period, chunky green insects, slightly bigger than adult mosquitoes, swarm around lights at night, said Mr Peter Ooi, a senior agriculture officer in charge of pest surveillance and forecasting.

Mr Talib warned that if the disease was allowed to continue, the whole of the Muda scheme would be affected within a year. The ensuing loss is projected at \$290 million, or 460,000 tonnes of padi per season. — NST.

CSO: 5400/4423

BRIEFS

PESTICIDE QUALITY CONTROL--HYDERABAD, May 11--The Director Agriculture Extension, Sind, Prof. Noor Muhammad Siyal, has said about Rs 5 million will be earmarked for pesticide quality control scheme in Sind during the next 6th Five-Year Plan. Addressing participants at a cotton training course here on Tuesday, he said the "pest vigilance and forecasting scheme" was in operation at a cost of over Rs 2 million in Hyderabad, Tharparkar, Nawabshah and Sanghar Districts. The scheme is being funded by the World Bank to ensure correct application of pesticides, when and where required, and to encourage biological control by avoiding unnecessary use of pesticides. Prof. Siyal said such training was very vital for growers so that they could get maximum output from their lands. He asked officials concerned to extend maximum cooperation to the growers by providing them full information about cotton and other crops. Earlier, a specialist from Punjab, Mr. Mohammad Rafi, apprised the trainees of the "pesticides quality control and testing scheme." [Karachi DAWN in English 12 May 83 p 5]

CSO: 5400/4723

WAYS TO FIGHT RICE INFESTATION IN MEKONG DELTA EXPLAINED

Hanoi NONG NGHIEP in Vietnamese 20 Mar 83 p 3

/Article by Le Chu: "Rice Infestation in Mekong River Delta Provinces"

/Text/ The summer-autumn and 10th-month rice crops in the Mekong River Delta provinces account for the largest area of rice production as well as the largest yearly yield. In recent years, due to proper plant protection, infestation has caused less damage than in 1977, 1978, and 1979. Nevertheless, because of weather aspects, the summer-autumn and 10th-month rice crops are very vulnerable to many species of pests which damage the rice, particularly during the transitional period between the dry and rainy season. As a result, serious and lingering drought often affects the beginning of the rice season, depriving floating rice of water, slowing up seedling growth, and encouraging a strong and highly-damaging development of brown leaf spots, especially paddy thrips. At mid-season, rainfalls are heavy, but interspersed with hot and sunny days, with a high degree of humidity, ideal for brown planthoppers and rice fulgorids to develop and damage infestation-prone rice species, such as IR-30, 73-1, 73-2, *Oryza sativa* Indica, and glutinous rice.... Rice fulgorids, especially, harm, not only infestation-prone rice species, but also brown planthopper-resistant ones, including NN3A, NN7A, and HT19.... Rice blasts affect and seriously damage such rice species as MTL32, VM1, NN7A, and NN3A.... *Aphelenchoides oryzae* damage NN3A, MTL36, and NN8A, while stem borers and caseworms often affect and cause great damage to fertile areas with a high degree of intensive farming and nitrogenous fertilization.

Moreover, a number of pests often grow into local epidemics, such as caterpillars in Minh Hai, army weevils in Hau Giang, armyworms in Tien Giang, Dong Thap, Cuu Long and An Giang, and gall flies in Thuan Hai....

At the end of the season, heavy rainfalls and flooding create conditions for leaf-eating caterpillars to grow and move from one area to another, affecting most heavily the provinces of Ben Tre, Dong Thap, Cuu Long and Hau Giang..., where main rice crops species and water-deprived ricefields often are hardest hit. Effectively to prevent and control pests and properly to protect this year's summer-autumn and 10th-month rice crops, we must carry out preventive measures--the main objective--and achieve prompt and radical control on a limited scale. Prevention is the most important work in plant protection. Right now, the localities must make an inspection to know the quantity and quality of rice varieties, and to set allocation percentages appropriate to each area. They

must limit direct sowing of rice varieties previously infested by brown plant-hoppers, rice blasts, and strong leaf-eating caterpillars, and must carefully select seeds before immersing them from 24 to 36 hours in a chemical solution containing decanted lime water at 20 percent, or hot water at 54 degrees Celsius, in order to kill all parasitic fungi.

Localities often hit by brown planthoppers, stem borers, rice blasts, and strong leaf-eating caterpillars must clean up ricefields thoroughly collecting hay for burning, or breaking it up through plowing before immersing it in water, clearing embankments and ditches of weeds, and eliminating hollow seeds before sowing to limit infestation, and prevent it from being transmitted to subsequent crops.

In localities where water is available, an effort must be made to transplant promptly, with focus on one large area at a time, curb the practice of delayed and protracted sowing that gives rise to infestation outbreaks and damaging activities.

In areas hard hit by leaf-eating caterpillars, the irrigation system must be swiftly updated to get a handle on pests' damaging effects. Fertilization must be done at the right time, with the right brand and right amount, ensuring a balance between organic and inorganic fertilizers. When rice blast has appeared, nitrate fertilizer cannot be used in any event. Nor can water be drained to restrict pest growth.

When infestation has grown into an epidemic over a large area, we must first of all, actively exterminate it. The most essential thing is to inspect ricefields regularly promptly to detect and radically stamp out pockets of contagion on a small-scale basis. There are many extermination measures; for instance, lamp-traps may be used against larvae, stem borers, leaf rollers, bugs, brown planthoppers and green leaf hoppers. When young worms have reached full growth, chemicals may be used; however, appropriate agents must be chosen to achieve high economic efficiency. For instance, to exterminate brown planthoppers, one may use Mip Sin 25 percent diluted to 1/300; or Batsa 50 percent diluted to 1/500 and gasoil--5 liters per hectare (in water-filled fields); to exterminate leaf-eating caterpillars, one may use Furedan 3G at doses of 30 to 40 kilos per hectare; or Kiatazin milk 50 percent diluted to 1/1000, or Kiatazin granules 10 percent at doses of 30 kilos per hectare at the first signs of infestation, and of 40 to 50 kilos per hectare to combat pests when the rice is in boot. Along with chemical agents, a movement must be launched to familiarize farmers with the use of local herbal drugs, including cactus sap, Cerris roots, and the stems of tobacco plants for cigarettes or as tobacco for water-pipe.

9213

CSO: 5400/4421

VIETNAM

BRIEFS

AGRICULTURAL PEST PROBLEM--Along with concentrating their efforts on fighting the drought and saving ricefields, localities must design measures to prevent harmful insects and save the late 5th-month spring rice. At present brown leafhopper and stem borer have appeared in some localities. The average density of brown leafhopper was recorded at 1,000-2,000 per square meter on ricefields in Hai Hung and Nghe Tinh provinces, and Haiphong and Hanoi municipalities. In Nghe Tinh, 200 hectares of 5th-month spring rice have been ravaged by the insects at a density of 4,000 per 1 square meter on 90 hectares of the area. In some localities the density of stem borers was 1,300-1,500 to 1 square meter. According to the Vegetation Protection Department's forecast, in the days ahead, brown leafhopper and stem borer will continue to develop. Localities must closely watch the situation to actively prevent and eliminate these harmful insects at their immature stage until harvest work has been completed. [Excerpt] [BK310708 Hanoi Domestic Service in Vietnamese 1430 GMT 30 May 83]

CSO: 5400/4425

END